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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,914	08/26/2003	Brian K. Aegerter	114183-20 (P00-0024US3)	2441
7590 09/23/2004			EXAMINER	
Keith V. Rockey Wallenstein Wagner & Rockey, Ltd. 311 South Wacker Drive, 53rd Floor Chicago, IL 60606-6630			KORNAKOV, MICHAIL	
			ART UNIT	PAPER NUMBER
			1746	

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/647,914

Applicant(s)

AEGERTER ET AL.

Examiner

Michael Kornakov

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 67-84 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 67-84 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicants are reminded that the continuity data of the instant application should be updated to include any information related to patents issued on relative applications. Appropriate correction is required.
2. The preliminary amendment, submitted by Applicants on 08/27/2003, wherein claims 1-66 are cancelled and the new claims 67-84 are introduced, is acknowledged. Claims 67-84 are currently pending and examined on the merits.
3. Applicants' intention to declare the interference between the instant application and the U.S. 6,290,865, filed November 30, 1998, as indicated in the preliminary amendment, dated 08/27/2003, is noticed. The instant application is a **CIP** of 09/041,901, filed March 13, 1998, now U.S. 6,350,319, which applicants are relying on in order to provoke and be a senior party in the interference. However, the instant claims 67-84 are not supported by the disclosure of U.S. 6,350,319 and therefore, the priority date of March 13, 1998 can not be given to the subject matter, disclosed by the instant claims 67-84.

Thus, the instant claims recite a method of removing a metal film, including the steps of providing a substrate, having a first and an opposite second surface, wherein a film of **metal** material is deposited on at least the first surface and a portion of unwanted film of deposited material is provided on the second surface; delivering a rinse fluid to the first surface, wherein the rinse fluid substantially prevents dissolution of the film of

the first surface and delivering a dissolving fluid to the second surface, thereby **removing** the material from at least the second surface.

The instant claims also recite a method of removing a **metal** film deposited on the front side of a substrate and at least a portion of a back side of the substrate, thus indicating that metal material is deposited on both sides of the substrate.

Specifically regarding the instant claim 84, this claim recites a method of removing a **metal** deposited on at least one side of a substrate including the steps of ...preventing dissolution of **at least some of the material** (assuming metal, M.K.) on said one side and the step of dissolving at least a portion of the metal deposited on the other side of the substrate without dissolving **all** of the metal on said one side. Thus, this claim provides for feasible dissolving of metal deposited on said one side.

U.S. 6,350,319 teaches an apparatus for processing a workpiece. Regarding the method steps, US'319 indicates that foregoing constructions also give rise to the ability to perform sequential processing of a single wafer using two or more processing fluids sequentially provided through a single inlet of the reaction chamber. Still further, the ability to concurrently provide different fluids to the upper and lower surfaces of the wafer opens the opportunity to implement novel processing operations. For example, a processing fluid, such as HF liquid, may be supplied to a lower fluid inlet of the reaction chamber for processing the lower wafer surface while an inert fluid, such as nitrogen gas, may be provided to the upper fluid inlet. As such, the HF liquid is allowed to react with the lower surface of the wafer while the upper surface of the wafer is effectively

Art Unit: 1746

isolated from HF reactions (col. 10, lines 27-42). Therefore, while teaching the ability to concurrently provide different fluids to the upper and lower surfaces of the wafer, US'319 fails to provide a method of **removing** a film of deposited **metal** material, including the steps of providing a specific substrate, wherein a **film of metal material** is deposited on at least the first surface of the substrate and a portion of unwanted film of deposited material is provided on the second surface; delivering a rinse fluid to the first surface, wherein the rinse fluid substantially prevents dissolution of the (metal, MK) film of the first surface.

US'319 also fails to provide a **method of removing a metal** deposited on at least one side of a substrate including the steps of ...preventing dissolution of **at least some of the material** (assuming metal, M.K.) on said one side and the step of dissolving at least a portion of the **metal** deposited on the other side of the substrate without dissolving **all** of the metal on said one side, thus providing for feasible dissolving of metal deposited on said one side.

The recitation that the HF liquid is allowed to react with the lower surface of the wafer while the upper surface of the wafer is effectively isolated from HF reactions does not provide any specificities regarding the substrate and the step of removing or dissolving the metal material from the second substrate surface is not disclosed by US'319. The substrate specificities are important in the instant case since a method of specific treatment, applied to the particular substrate is disclosed by the instant claims 67-84.

Accordingly, an interference cannot be initiated based upon these claims.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 84 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The recited in claim 84 "the material" constitutes an indefinite subject matter, because it is not clear what the term "the material" is attributed to. It is not clear, whether "the material" represents a deposited metal or any other portion of the substrate. Clarification is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 67-84 are rejected under 35 U.S.C. 102(a/e) as being anticipated by Lloyd et al (U.S. 6,290,865).

Lloyd et al teach a method of removing a film of deposited metal material utilizing

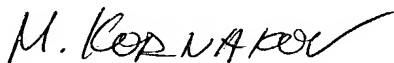
Art Unit: 1746

the same processing steps as instantly claimed. Therefore, all the limitations of the instant claims are met by Lloyd et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Kornakov whose telephone number is (571) 272-1303. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571) 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael Kornakov
Primary Examiner
Art Unit 1746

09/18/2004